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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,336

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David Richard Cowieson

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EXAMINER

NAFF, DAVID M

ART UNIT

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1657

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,336	Applicant(s) COWIESON ET AL.	
	Examiner David M. Naff	Art Unit 1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 16, 20-22, 25, 26, 29, 32-36, 39-41 and 44 is/are pending in the application.
- 4a) Of the above claim(s) 1-9, 16 and 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25, 26, 29, 32-36, 39-41 and 44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

An amendment of 5/8/08 amended claims 1, 3-9, 16, 20, 22, 25, 29, 32, 39 and 40, canceled claims 10-15, 17-19, 23, 24, 27, 28, 30, 31, 37 and 38, and added new claim 44.

Claims in the application are 1-9, 16, 20-22, 25, 26, 29, 32-36, 39-41 and 44.

5 Claims 1-9, 16 and 20-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/8/07.

Claims examined on the merits are 25, 26, 29, 32-36, 39-41 and 44.

10 The request for rejoinder is noted. However, steps of non-elected process claim 1 and claims dependent thereon can produce a functionalized porous material different than required by claim 25 and claims dependent thereon, and the functionalized porous material of claim 25 can be produced by a process different than required by claim 1. For rejoinder to occur, claim 25 should be in product-by-process form reciting all process steps as recited in claim 1, and claim 1 should require the process recited to produce a functionalized porous material as recited
15 by claim 25.

Claim Objections

Claim 44 is objected to because of the following informalities: bridging lines 1 and 2, "volume if about" should be --- volume is about ---. Appropriate correction is required.

Claim Rejections - 35 USC § 112

20 The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

25 Claim 25, 26, 29, 32-36, 39-41 and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are confusing and unclear as to the process performed when using process limitations of “synthesized *in situ* using plasma polymerization” and “grafted onto the porous substrate using plasma polymerization” as required in claim 25. Are two separate process steps performed when using *in situ* plasma polymerization and being grafted using plasma
5 polymerization, or is a single process step performed where plasma polymerization results in both *in situ* polymerization and grafting. When process limitations are required to define a product, the claims should be in product-by-process form reciting all steps for a complete process required to produce the product.

In claims 39 and 40, “high” and “low” are relative and subjective, and would be uncertain
10 as to meaning and scope.

Claim 44 is unclear by not having clear antecedent basis for “the void volume”. Claim 25 does not require void volume.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the
15 basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20 Claims 25, 26, 33-35 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Piletsky et al (document on 1449 of 4/22/05).

The claims are drawn to a functionalized porous material comprising a porous substrate having a molecularly imprinted polymer synthesized *in situ* using plasma polymerization attached to the external surface and/or the internal surface of the porous substrate, and the
25 molecularly imprinted polymer is grafted onto the porous substrate using plasma polymerization.

Piletsky et al disclose surface functionalization of porous polypropylene membranes with molecularly imprinted polymers by photograph copolymerization.

The functionalized porous polypropylene membranes of Piletsky et al are the same as the functionalized porous material presently claimed. The process limitations of claim 25 of *in situ* plasma polymerization and grafting using plasma polymerization do not produce a functionalized porous polypropylene membrane different than encompassed by the present claims. The porous membranes of Piletsky et al will inherently have a void volume as required by claim 44.

Response to Arguments

The amendment urges that Piletsky et al does not disclose a functionalized porous material that includes a molecularly imprinted polymer synthesized *in situ* using plasma polymerization. However, evidence has not been presented establishing that using *in situ* plasma polymerization to synthesize a molecularly imprinted polymer as claimed produces a functionalized porous material having physical and/or chemical properties unobviously different from physical and/or chemical properties of the surface functionalized porous polypropylene membranes grafted with a molecularly imprinted polymers by photograph copolymerization disclosed by Piletsky et al. Merely putting a process limitation in claim 25 cannot distinguish the claimed functionalized porous material from that of Piletsky et al unless the process limitation is established to provide a functionalized porous material having unexpectedly different physical and/or chemical properties

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5 This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later
10 invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piletsky et al.

When preparing the functionalized membrane of Piletsky et al, it would have been
15 obvious to provide a high internal surface area or a low internal surface area depending on intended use. Evidence has not been presented establishing that a high or low internal surface area is unexpectedly different from the internal surface area of the porous membranes of Piletsky et al.

Response to Arguments

20 The amendment traverses the rejection on the basis of the claims requiring a molecularly imprinted polymer synthesized *in situ* using plasma polymerization. However, this argument is unpersuasive for reasons set forth above.

Claim Rejections - 35 USC § 103

Claims 25, 26, 29, 32-35, 39, 40 and 44 are rejected under 35 U.S.C. 103(a) as being
25 unpatentable over Piletsky et al in view of Timmons et al (6,329,024).

Claim 25 requires plasma polymerization, and claims 29 and 32 require pulsed plasma polymerization for synthesizing or grafting the molecularly imprinted polymer.

Timmons et al disclose using pulsed plasma polymerization when polymerizing to form a coating (col 4, lines 37-65). The pulsed plasma permits use of high peak powers while
5 maintaining low average powers which provides for retention of monomer functional groups (col 6, lines 53-64).

It would have been obvious to use pulsed plasma polymerization when polymerizing to obtain functionalized porous polyethylene membranes as disclosed by Piletsky et al to obtain the result of pulsed plasma polymerization retaining monomer functional groups as disclosed by
10 Timmons et al.

Response to Arguments

The amendment urges that Timmons et al is polymerizing cyclic ethers, whereas the claims require polymerizing a molecularly imprinted polymer within a porous substrate. However, advantages disclosed by Timmons et al of pulsed plasma polymerization permitting
15 use of relatively high peak powers while simultaneously maintaining relatively low average powers which provide for the retention of monomer functional groups would have been expected to be also advantageous for polymerization of a molecularly imprinted polymer. Timmons et al do not teach that the advantage of pulsed plasma polymerization is limited only when polymerizing cyclic ethers. Claim 25 recites “attached to the external surface and/or-----
20 attached to the internal surface” and does not require the molecularly imprinted polymer to be polymerized only on the internal surface of the porous substrate. The present claims do not require polymerization according to the illustration on page 9 of the amendment.

Claim Rejections - 35 USC § 103

Claims 36 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 25, 26, 29, 32-35, 39, 40 and 44 above, and further in view of Nova et al (6,340,588).

5 Claim 36 requires the porous material to contain an RF tag, and claim 41 requires the material to have the shape of a cylinder or rectangular prism.

Nova et al discloses grafting a polymer to a tube containing an RF tag (col 21, lines 41-45).

10 When the functionalized porous membrane of Piletsky et al is produced using plasma polymerization as set forth above, it would have been obvious to provide the porous membrane with an RF tag to obtain its known function as suggested by Nova et al disclosing a tube containing an RF tag. The use of a tube by Nova et al would have suggested providing the membrane of Piletsky et al in the form of a cylinder as in claim 41.

Response to Arguments

15 The amendment traverses the rejection on the basis of the claims requiring a molecularly imprinted polymer synthesized *in situ* using plasma polymerization. However, this argument is unpersuasive for reasons set forth above.

Conclusion

20 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the

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THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 571-272-0920. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on 571-272-0925. The fax phone number for the
10 organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR
15 system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M. Naff/
Primary Examiner, Art Unit 1657

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DMN
9/13/08